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Accidents.

To reduce farm accidents. Science news letter. v.36,no.18. October 28, 1939. p.276. Farm activities which caused greatest number of these accidental deaths are: first, cutting and sawing lumber; second, caring for animals; third, plowing. Burns were most important type of fatal injury on farms. Falls come second, firearms third, suffocation fourth, and poisoning fifth.

Safety on the farm is mostly home made. Address by S. H. McCrory before the Fourth annual Northwest accident conference, St. Paul, Minn., April 11, 1939. Washington, U.S. Bureau of agricultural chemistry and engineering, 1939. 12p. mimeographed.

Agricultural Engineering.

Agricultural engineering. By G. W. McCuen. In Engineering experiment station news. Ohio state university. v.12,no.1. February, 1940. p.5-7.

Agricultural engineering and farm planning. By Howard Matson. Soil conservation. v.5,no.7. January, 1940. p.167-169,195.

Engineering factors in a balanced agriculture. By K.J.T. Ekblaw. Agricultural engineering. v.21,no.4. April, 1940. p.127-128.

Agricultural Products.

Appraisal of the movement to increase industrial uses of farm products. By H. E. Erdman. Scientific agriculture. v.20,no.1. September, 1939. p.20-28.

Agriculture.

Costs and returns from farm enterprises from 75 cost-account farms, 1938. By P. S. Williamson. Ithaca, N.Y., 1939. 32p. New York State college of agriculture. Cornell extension bulletin no.422.

Farm horizons: report of the Seneca county agricultural conference committee. Ithaca, N.Y., 1939. 42p. New York State college of agriculture. Cornell extension bulletin no.423.

Agriculture. (Cont'd).

Farm operating efficiency investigations in Virginia 1931 - 1938. Progress report. By A. T. Holman, J.L. Maxton and G. D. Kite. Washington, U.S. Bureau of agricultural chemistry and engineering, 1940. 57p. mimeographed.

Forty-ninth annual report for the fiscal year ended June 30, 1939. Pullman, Wash., 1939. 101p. State college of Washington. Agricultural experiment station. Bulletin no.384.

New York state 1940 agricultural outlook. Ithaca, N.Y., 1940. 20p. New York State college of agriculture. Cornell extension bulletin no.425.

Science as an aid to agriculture. By Frank A. Briggs. Farm and ranch. v.59,no.2. February, 1940. p.4,15. Discussion of the work carried on by the Texas Agricultural experiment station.

Where agriculture stands today. By Henry A. Wallace. Nation's agriculture. v.15,no.4. April, 1940. p.4-5,13.

Air Conditioning.

Air conditioning service engineer outlines method for leak testing. By Floyd M. Mayse. Heating, piping and air conditioning. v.12,no.2. February, 1940. p.114-116. Outlines in detail procedure for testing air conditioning installation for leaks in piping and equipment. Recommendations are based upon experience in this work.

Psychrometric chart: its application and theory. By William Goodman. Heating, piping and air conditioning. v.12,no.2. February, 1940. p.107-110.

Boilers.

Operating characteristics of electric steam boilers. By J. R. Tavernetti and K. F. McIntire. Agricultural engineering. v.21,no.4. April, 1940. p.141-143.

Brooders.

Brooding chicks artificially. By J. E. Humphrey and J. B. Kelley. Lexington, Ky., 1940. 35p. University of Kentucky. College of agriculture. Extension division. Circular no.157.

Brooders, Electric.

Save the pigs with electric brooders. By C. P. Wagner. Rural electrification exchange. v.3,no.1.(New series). First quarter, 1940. p.19-20.

Building Materials.

Fire resistance of ceramic building materials. By H. D. Foster. Engineering experiment station news. Ohio State university. v.11,no.5. December, 1939. p.11-13.

New project for better construction, lower cost should encourage more building. By Myron W. Adams. Industrial standardization. v.10,no.12. December, 1939. p.298-301.

Steel on the farm. By K.J.T. Ekblaw. New England homestead. v.113,no.2. January 27, 1940. p.4,24.

Cements.

Sulphate resistance of 94 commercial cements. By Philip W. Manson. Agricultural engineering. v.21,no.4. April, 1940. p.135-137.

Chemistry, Technical.

Recent achievements of chemical engineering and chemical industry. By J. R. Withrow. Engineering experiment station news. Ohio state university. v.12,no.1. February, 1940. p.7-10.

Cold Storage.

Cold storage investigations. In Forty-ninth report for the fiscal year ended June 30, 1939. Pullman, Wash., 1939. p.11-12.

Concrete.

Progress in concrete research. Engineering news-record. v.124,no.11. March 14, 1940. p.385-388.

Conservation of Resources.

Electric thermal storage. By W. L. Shand. Electrical review. v.125,no.3238. December 15, 1939. p.757-758. Means of coal conservation in the National interest.

Land use, soil conservation and water facilities. By E. H. Wiecking. Reclamation era. v.30,no.1. January, 1940. p.4-6,16-17.

Research problems in conservation engineering. By Mark L. Nichols. Soil conservation. v.5,no.7. January, 1940. p.183-185,194.

Corrosion.

Corrosion in steam heating systems. By Leo F. Collins and Everette L. Henderson. Heating, piping and air conditioning. v.12,no.2. February, 1940. p.99-101. Removal of carbon dioxide by feedwater treatment.

Dams.

Another dam experiment. By Francis Flood. Farmer-stockman. v.52,no.23. December 1, 1939. p.3. $5,000,000 Altus irrigation project in southwest Oklahoma has been okeyed by congress. First $1,000,000 has been appropriated, necessary acreage signed up, petition prepared, and construction is expected to begin in spring.

Foundation conditions and treatment at Guntersville Dam. By Verne Gongwer. American society of civil engineers. Proceedings. v.66,no.3. March, 1940. p.431-462. Foundation conditions at Guntersville Dam presented interesting engineering and construction problems, solutions of which are thought to be unique. Since techniques for foundation treatment were developed progressively to suit varying conditions encountered, different parts of foundations are described in order in which they were uncovered. Ordinary procedures, conditions, and methods are described only briefly to permit more complete description of extraordinary conditions and ground-water behavior after filling of reservoir.

Foundation exploration and geologic studies at Chickamauga Dam. By Portland P. Fox. American society of civil engineers. Proceedings. v.66,no.3. March, 1940. p.463-477. Engineers and geologists seldom encounter more difficult foundation problems in construction of large dam than those which prevailed at Chickamauga Dam. Rock forming foundation of dam consists mainly of thin-bedded, pure to argillaceous limestone with thin interstratified beds of bentonite and shale. Rocks are intricately folded and faulted, and are quite cavernous, especially in zones of structural weakness. All of foundation problems, including heavy overburden, are related, directly or indirectly, to structure and solubility of rock. By carefully logging, correlating, and plotting all data made available from many hundreds of coredrill holes of both small and large diameters, it was possible to reconstruct complex foundation conditions, in detail, in advance of actual excavation. This detailed geologic work aided engineers in determining not only depth to which excavation was necessary, but also extent and character of foundation treatment that were necessary.

Foundation exploration and geologic studies at Guntersville Dam. By Robert M. Ross. American society of civil engineers. Proceedings. v.66,no.3. March, 1940. p.420-430. Construction of dam in vicinity of Guntersville, Ala., has been under consideration since 1914. Geologic investigations of several proposed sites were made in that year by U. S. Army Engineers, and work was continued in 1933. First investigations by Tennessee Valley Authority were begun in fall of 1934. Detailed geologic map of region was made, stratigraphic studies of various formations involved were conducted, numerous geologic sections were measured and described, and considerable structural data were accumulated. Eight dam sites were examined. Each was subjected to intensive study, which was greatly facilitated by diamond-drill cores previously obtained by Army Engineers. This paper is brief summary of geological studies upon which final design was based.

Dams. (Cont'd).

Foundation treatment and reservoir rim tightening at Norris Dam. By James S. Lewis, Jr. American society of civil engineers. Proceedings. v.66,no.3. March, 1940. p.385-419.
Paper contains description of equipment used and of field practices found to give best results in handling problems that arose. Cost and progress records are included.

Foundation treatment at Chickamauga Dam. By James B. Hays. American society of civil engineers. Proceedings. v.66,no.3. March, 1940. p.478-499.

Draintile.

Causes of failure in tile drains. By Fred F. Shafer. Agricultural engineering. v.21,no.1. January, 1940. p.17-18,20.
Information presented in paper is based in general way on about thirty years of personal experience and observation in thirty-six states, but more particularly on large volume of repair work done on public tile drains in Ohio, during past four years, by CCC drainage camps. There are five broad bases under which all failures of tile drains may be classified, namely, (1) manufacturing processes and materials used, (2) improper design of ditches, (3) improper construction, (4) lack of inspection and maintenance, and (5) physical structure of soil. Table 1. Probable causes of failure of tile drainage in certain areas of Ohio.

Drainage.

Our drainage problems. By John G. Sutton. Soil conservation. v.5,no.7. January, 1940. p.179-182,194.

Dryers and Drying.

Filbert driers. By F. E. Price. Rural electrification exchange. v.3,no.1.(New series). First quarter,1940. p.8,14.
Fig.1. Construction details of filbert drier suitable for either natural draft or fan operation. Fig.2. Cross section diagrams of a forced draft filbert drier. Fig.3. Filbert or walnut drier using steam as a source of heat.

Loose fibre drying. Textile weekly. v.25,no.621. January 26, 1940. p.103,105,107,109. Application of a successful hot air system: Spooner Dryer and Engineering co., ltd.

Operating advantages of the "Lincoln" drier. Implement and machinery review. v.65,no.776. December 1, 1939. p.774-775.

Electric Lines.

Protection and operation of rural lines in southeast. By L. C. Flournoy. Electrical world. v.113,no.8. February 24, 1940. p.45-46.

Electricity - Distribution.

Advances in the use of electricity. By Frederick W. Doolittle. Edison electric institute bulletin. v.8,no.3. March, 1940. p.100-102.

Electricity on the Farm.

All-electric milk room. By J. H. Bodwell. Rural electrification exchange. v.3,no.1.(New series). First quarter,1940. p.10-11,14.

Now is the time. By Geo. W. Kable. Electricity on the farm. v.13,no.3. March, 1940. p.9-11. Some reminders about seasonal activities which may save or make money.

Rural electrification facts not generally known. By L. J. Smith. Rural electrification exchange. v.3,no.1.(New series). First quarter, 1940. p.12-14.

Employment.

Farm employment, 1909 to 1938. Monthly labor review. v.48,no.6. June, 1939. p.1241-1257.

Engineering.

German-English glossary for civil engineering. By A. A. Brielmaier. Urbana, Ill., 1940. 37p. University of Illinois. Engineering experiment station. Circular series no.40.

Standards of professional relations and conduct: discussion. By Louis E. Ayres, Ivan C. Crawford, Walter H. Wheeler, Charles R. Gow, J.T.L. McNew, and W. L. Waters. American society of civil engineers. Proceedings. v.66,no.3. March, 1940. p.571-580.

Engines.

Diesel costs. By Pakenham Beatty. Power plant engineering. v.44,no.4. April, 1940. p.94-95. Analysis of Diesel engine users Ass'n cost report brings to light many interesting points in connection with power costs, load conditions, excess capacity and heat recovery.

Engine combustion and pressure development. By Gerald M. Rassweiler, Lloyd Withrow, and Walter Cornelius. S.A.E. journal. v.46,no.1. January, 1940. p.25-48. High-speed motion pictures of flames in gasoline engine have been photographed, together with pressure records of same explosions. These records of flame motion and pressure development have been examined to determine effects of changing mixture ratio, spark position, and throttle opening. Also, some quantitative relationships between

Engines. (Cont'd).

fraction of charge burned and pressure developed at any time during explosion have been tested with experimental data observed while operating engine under several sets of conditions. It is shown that, by means of these relationships, both fractional volume and fractional mass of charge inflamed at any time may be calculated from pressure cards with accuracy comparable with accuracy of present experimental observations.

Gasoline engine combustion. By Hector Rabezzana, Stephen Kalmar and Alfred Candelise. Automotive industries. v.81,no.12. December 15, 1939. p.632-639. Part Two.

Some new investigations on old combustion-engine problems.--IV. By Ing. G. Eichelberg. Engineering. v.148,no.3858. December 22, 1939. p.682-686.

Erosion.

Coast and river conservancy. By Ernest Latham. Engineering. v.148,no.3854. November 24, 1939. p.571-573.

Erosion: heritage from the past. By Lois Olson. Washington, U.S. Soil conservation service, 1940. 12p. mimeographed. Reprinted from Agricultural history. v.13. October, 1939.

Erosion-control lessons from Old-world experience. By W. C. Lowdermilk. Soil conservation. v.5,no.7. January, 1940. p.191-194. IV.--Precedents in the control of waters.

Farm Buildings.

Agricultural engineer's interest in small items of prefabricated structural farm equipment. By D. H. Malcom. Agricultural engineering. v.21,no.1. January, 1940. p.27,29. Paper emphasizes two points, namely, (1) that this field is truly one for agricultural engineering, and (2) that it is large enough to deserve much consideration from society.

Appraisal of insured farm building risks. By L. G. Keeney. Agricultural engineering. v.21,no.1. January, 1940. p.13-14,16. Following points should be considered in studying each case: 1. Values of buildings not necessary to operation of farm should be discounted. 2. Rented buildings not used in connection with farm have little value. 3. Buildings occupied by tenants should be limited in value to amount which would probably be spent in replacement in case of loss. 4. Dwellings only partly occupied should carry value no greater than that of smaller building which would serve purpose. 5. Estimated value for all buildings should not exceed from 70 to 80 per cent of total value of farm. Dwelling should be limited to maximum of 35 per cent. 6. If farm is mortgaged total value of buildings should not exceed amount which would be spent to replace them in case of loss.

Farm Buildings. (Cont'd).

Farm building plans popular in region I-W. Brick and clay record. v.96,no.2. February, 1940. p.37-38. Lists plans for farm buildings, available from Region I-W, Structural Clay Products Institutes.

Farm Machinery and Equipment.

Are farm equipments oversold? By Frank R. Walters. Magazine of Wall street. v.65,no.11. March 9, 1940. p.664-667,706.

Falkiner cane harvester. Facts about sugar. v.35,no.1. January, 1940. p.41-42. Improved type of machine developed as result of experience. Trials in Hawaii show good performance in normally favorable conditions of terrain. New features work well.

Here's latest news on mechanical pickers. Prairie farmer. v.111,no.18. September 9, 1939. p.17,26-27.

The job ahead in 1940. By L. C. Aicher. Kansas farmer. v.77,no.3. February 10, 1940. p.5,36. Modern equipment helps maintain a diversified agriculture in Western Kansas.

Machine for controlling loose smut in wheat and barley. By K. S. Chester. Stillwater, Okla., 1940. 8p. Oklahoma agricultural and mechanical college. Experiment station circular no.86.

More basic research in farm machine development needed. By G. Douglas Jones. Agricultural engineering. v.21,no.1. January, 1940. p.15-16.

New machines for Nebraska farmers. By Harry G. Davis. Nebraska farmer. v.82,no.4. February 24, 1940. p.3,27.

1940 Buyer's guide. Chicago, Ill., Farm implement news, 1940. 384p.

1940 power equipment fits every type of farm. Kansas farmer. v.77,no.3. February 10, 1940. p.20-21. Modern system of farming developed around modern farm machinery is simplified by equipment designed to do all types of farm jobs: to conserve fertility and moisture, facilitate timely planting, tending and harvesting; pump floods of water to irrigate thirsty soil, grind crops into better livestock feed. Opportunities in Kansas mean just such progress and standard of living that looks ahead with confidence.

100 years of farm power. By R. B. Gray. Southern planter. 101st year,no.3. March, 1940. p.4,24-25,29,47.

Progress in development of sugar beet machinery. By Roy Bainer. Through the leaves. v.28,no.1. January, 1940. p.10-12. Sugar beet machinery development is major cooperative research

Farm Machinery and Equipment. (Cont'd).

project between California and Colorado Agricultural Experiment stations and U.S. Department of Agriculture. These investigations are supported by substantial grant made available through U.S. Beet Sugar Association. Some very interesting and novel methods have been developed in attempt to solve mechanical harvesting. Brief description of experimental variable cut topping unit and experimental vibrator lifting device will illustrate some of these unique methods of approach.

Revelations of a farm machinery survey. By Earle K. Rambo. Agricultural engineering. v.21,no.1. January, 1940. p.19-20. Discusses work with Tennessee agricultural extension service, making brief farm machinery survey and giving repair demonstrations in seven counties. Objectives, were (1) to yield state cross-section view of farm machinery equipment in use and machinery equipment conditions in Tennessee in summer of 1939; (2) to give view of farmer attitude in equipment upkeep and toward extension demonstrational work in subject; and (3) to demonstrate repair methods on mowers, as one commonly used type of equipment.

Soil packer grass seeder. By F. W. Duffee. Agricultural engineering. v.21,no.1. January, 1940. p.21-22.

Farm Power.

Power for plowing. By Dave Thompson. Prairie farmer. v.111,no.6. March 25, 1939. p.4,16.

Feed Grinders and Grinding.

Grind and get along. By Robert Rea. Farmer-stockman. v.52,no.23. December 1, 1939. p.5.

Plan feed storage capacity making feed grinding an automatic operation. By C. P. Wagner. Markets: building section. v.4,no.11. November 2, 1939. p.5. Table gives effect of speed on rate, fineness, and power for grinding oats with hammer mills.

Fences.

Construction of fence ends and corners. By Henry Giese and Maxton D. Strong. Agricultural engineering. v.21,no.4. April,1940. p.131-134. During 1938 research project was undertaken in agricultural engineering section of Iowa agricultural experiment station, and sponsored by Pressure Treated Fence Post Institute, to study possibilities of improving fence construction methods, with special emphasis upon simplicity and economy. Paper limited to brief description of work undertaken and general resumé of results.

Fencing:--an application of assembly line principles to farm production. American lumberman. 66th year,no.3161. September 23, 1939. p.34,41.

Fertilizer Placement.

Fertilizer placement increases yields. Florida grower. v.47,no.8.(whole no.1101). August, 1939. p.15.

Fire Protection.

Chopped hay lessens danger of barn fires. By Cecil Barger. Kansas farmer. v.77,no.3. February 10, 1940. p.22-23.

More fire protection for farm homes. Prairie farmer. v.111,no.8. April 22, 1939. p.3. Three thousand five hundred rural people killed, and $90,000,000 gone up in smoke--that's just one year's loss in this country from farm fires. Four reasons, according to verdict of fire-fighting officials: (1) Lack of organization for fighting farm fires. (2) Lack of fire-fighting experience. (3) Lack of proper fire-fighting equipment. (4) Lack of an adequate farm water supply.

Flax.

Flax dressing machinery and methods. By S. A. G. Caldwell. Textile weekly. v.25,no.621. January 26, 1940. p.97-98. Some recent developments.

Floods and Flood Control.

Transient flood peaks: discussion. By Gordon R. Williams and Donald M. Baker. American society of civil engineers. Proceedings. v.66,no.3. March, 1940. p.546-552.

Floors.

Performance test of floor coverings for use in low cost housing: Part 1. By P. A. Sigler and E. A. Koerner. Washington, D.C., 1940. 14p. "Selected references:"p.14. U.S. National bureau of standards. Building materials and structures. Report BMS34.

Flow of Air.

Performance of stack heads. By D. W. Nelson, D. H. Krans and A. F. Tuthill. Heating, piping and air conditioning. v.12,no.2. February,1940. p.131-138. Purpose of investigation was to study effect of approach on discharge of air from duct openings similar to those used in rooms. Elaborate tables are supplied by various grille manufacturers to show distribution of air from grille face, but these tables assume good approach to grille such as occurs when grille is placed at end of straight duct. In actual installations, however, poor approach conditions are frequently encountered as grille is often immediately preceded by elbow turn or stack head. In this investigation chief attention was given to determination of velocities and directions of components of air stream as they issued from face of stack head being tested.

Flow of Water and Gases.

Flow of liquids through beds of granular solids. By William H. Ward. Engineering. v.148,no.3849. October 20, 1939. p.435-438.

Photographic study of fluid flow between banks of tubes. By R. Pendennis Wallis. Engineering. v.148,no.3848. October 13, 1939. p.423-425.

Foods, Frozen.

Advantages of frozen foods to the farmer and the utility. By H. W. Sterling. Rural electrification exchange. v.3,no.1. (New series). First quarter, 1940. p.1-4,24. Advantages to farmer: 1. Greater acreage. 2. More stable market. 3. Possibility of marketing greater variety of crops. Table 1. Amounts to be frozen and months in which frozen. Table II. Estimated cost of farmer's requirements if secured from locker plants.

Nutritive value of frozen foods. By Faith Fenton. Locker patron. v.1,no.5. December, 1939. p.8,28-29. Summarizes some of the practical findings of the research workers.

Frost Protection.

Utilizing waste from orchard heaters. California cultivator. v.86,no.24. December 2, 1939. p.649. Effort has been made to devise burners which will burn this waste and at orchard heating meetings held this fall by extension service, burner was shown and demonstrated in which various kinds of orchard heating waste could be burned in satisfactory manner and with very small output of smoke. Little fuel oil is needed to start such burner going but after it gets going everything combustible will burn. Heater has rather tall stack, and tubes in various parts of cover take air down into container in near contact with fuel and providing draft of air over it. Cost of such heater is naturally more than that of ordinary orchard heaters. However, comparatively few are needed as refuse from other heaters can be burned effectively in these special heaters.

Heating.

Investigation of oil-fired forced-air furnace systems in the research residence. By A. P. Kratz and Seichi Konzo. Urbana, Ill.,1939. 90p. University of Illinois. Engineering experiment station. Bulletin series no.318.

Hotbeds and Cold Frames.

Heating hotbeds with electric cable. In Forty-ninth annual report for the fiscal year ended June 30, 1939. Pullman, Wash., 1939. p.11.

Hydraulics.

Relation of the statistical theory of turbulence to hydraulics: discussion. By Boris A. Bakhmeteff. American society of civil engineers. Proceedings. v.66,no.3. March,1940. p.581-583.

Insulation.

Heat-insulated houses. Electrical review. v.126,no.3242. January 12, 1940. p.37. Tests carried out in United States by Tennessee Valley Authority are claimed to show that adequate insulation of house against heat loss can cut fuel bill nearly in half.

Insulation for cold storage. By H. Seymour. Brewers digest. v.15,no.3. February,1940. p.35. Table gives specific gravity and coefficient of conductivity for various materials used in construction of cold stores.

New sheet insulating material. By H. Ainsworth Harrison. Electrical review. v.126,no.3242. January 12, 1940. p.41. Development of new sheet material having clay as its basis has recently been reported in United States. Group of American physical chemists have made use of recent developments in colloid chemistry to prepare from certain types of centrifuged "Bentonite" clay dispersions having particle size below 25 millimicrons, non-metallic inorganic film or sheet, by concentration, desiccation, and subsequent heat, pressure and chemical treatment. To this material name "Alsifilm" has been given, word being derived from aluminium silicate which is basic constituent of all clays.

Significance of glass insulation. By Graham Lee Moses. Power plant engineering. v.44,no.3. March,1940. p.50-52.

Irrigation.

Irrigating Louisiana's strawberry farms. By E. A. Hodge. Rural electrification exchange. v.3,no.1.(New series). First quarter,1940. p.15.

Irrigation branch experiment station [Pullman, Wash.] In Forty-ninth annual report for the fiscal year ended June 30, 1939. Pullman, Wash., 1939. p.74-75.

Man-Made rain. By Paul C. Rice. New Jersey farm and garden. v.10,no.10. October, 1939. p.5,40.

New system of field, orchard and garden irrigation. Implement and machinery review. v.65,no.776. December 1, 1939. p.770-772.

Russia's new irrigation systems. Implement and machinery review. v.65,no.776. December 1, 1939. p.775. Department of

Irrigation. (Cont'd).

Irrigation Works of Commissariat of U.S.S.R. is now constructing over 30 canals, and these will irrigate 1-1/4 million acres of land. Russia's first mechanical irrigation system has been built in Volga region of Saratoff province. This consists of floating pumping station on Bolshoi Irgiz River, where four pumping units supply water to surrounding fields. Immense reservoir to hold nearly 5,900 million cu.ft. of water is being completed to water cotton plantations of Turkmenistan, while as many as sixteen new irrigation plants, capable of irrigating 370,700 acres of land, will be put into operation in U.S.S.R. this year.

Irrigation Canals.

Improved methods in canal maintenance. By W. H. Robinson. Reclamation era. v.30,no.1. January,1940. p.12-13.

Laboratories.

Description of regional research laboratories. By R. L. Hanson. Washington, U.S. Bureau of agricultural chemistry and engineering, 1940. 6p. mimeographed.

National physical laboratory. Engineering. v.148,no.3854. November 24, 1939. p.587-589. Electricity department.

Ventilating and heating a chemical lab. By Deane O. Hubbard. Heating, piping and air conditioning. v.12,no.2. February, 1940. p.106.

Lubrication.

Bearing corrosion and Diesel engine lubrication. By C. J. Copley. Southern power and industry. v.58,no.2. February,1940. p.58-63. Low weight per hp necessitates higher pressures and temperatures. New bearing metals to meet new loading present new lubrication problems.

Food for leather belts. By J. A. Webb. Southern power and industry. v.58,no.2. February,1940. p.76-78.

Marketing.

Costs of distribution in the wholesale fruit and vegetable trade. By W. F. Chown and A. H. Turner. Ottawa, Canada, 1940. 70p. Dominion of Canada. Department of agriculture. Technical bulletin no.21.

Transportation of agricultural products in the United States 1920-June 1939; selected list of references. Compiled by E. M. Colvin. Washington, D.C.,1939. 250p. U.S. Bureau of agricultural economics. Agricultural economics bibliography no.81. Annotated.

Miscellaneous.

Catalog of research and statistical publications. Washington, U.S. Work projects administration, 1940. 22 numb. l. Processed.

Georgia's forests and their development. [Atlanta, Ga.] Department of natural resources. Division of forestry. n.d. 48p.

Progress in home demonstration work; statistical analysis of trends. (With special reference to 1938). By Gladys Gallup and F. L. Hall. Washington, D.C.,1940. 36p. mimeographed. U.S. Department of agriculture. Extension service circular no.319.

Motors, Electric.

Electric motors. By H. P. Richter. Electricity on the farm. v.13,no.3. March,1940. p.15-16. Article 4. (Last in the series). Care of motors; types of bearings; belts and pulleys; pulley combinations; wiring for motors.

Frog-leg windings for direct-current generators and motors. By C. S. Siskind. Lafayette, Ind., 1940. 36p. Purdue university. Engineering experiment station. Research series no.70.

Power behind the buzz saw. By H. N. Stapleton. Rural electrification news. v.5,no.5. January,1940. p.22-23.

Nutrition.

Nutrition literature. By Grace C. Kimball. Special libraries. v.31,no.3. March,1940. p.87-92.

Paints and Painting.

Symposium on paint testing. ASTM Bulletin. No.102. January,1940. p.11-19. Some fundamental requirements of colorimeters and reflectometers, by Richard S. Hunter. Method of representing color, by Francis Scofield. Sheen meter, by J. W. Ayers. Testing elasticity and hardness of house paints, by W. H. Hoback. Hegman Fineness gage, by E. W. Fasig. Aeration test for comparison of thinners, by D. D. Rubek. Detective work on metal finishes, by V. M. Darsey. Apparatus for determining the durability of heat-resisting paints, by G. W. Ashman and S. Werthan. Conical mandrel for measuring elongation of attached films, by H. G. Arlt. Cook box test for anti-corrosion paints, by E. W. McMullen. Development of a consistency test, by R. H. Sawyer.

Plastics.

Plastic calking materials. By J. J. Tregoning and others. Washington, U.S. Govt.print.off.,1940. 23p. U.S. National

Plastics. (Cont'd).

bureau of standards. Building materials and structures. Report BMS33.

Service-temperature flow characteristics of thermoplastics. By W. F. Bartoe. Mechanical engineering. v.61,no.12. December, 1939. p.892-894.

Plows and Plowing.

Results of legume coverage studies. By I. F. Reed. Agricultural engineering. v.21,no.4. April,1940. p.129-130,134. Studies to determine possibilities of covering legume crops with moldboard plows were carried on from 1923 to 1927 by Alabama Agricultural Experiment station. Results of studies show value of proper adjustment of plow and certain attachments for getting debris turned.

Poultry Houses - Heating.

Artificial heat in the poultry house. By Clarence E. Lee. Rural New Yorker. v.99,no.5470. February 10, 1940. p.102.

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